

Appl. No. 10/662,982
Response dated March 14, 2005
Reply to Office action of Dec. 13, 2004

AMENDMENTS TO THE CLAIMS

The listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A metering arrangement, comprising:
 - a meter housing configured to be securely supported proximal to a facility receiving utility commodities;
 - a source of energy signals representative of electrical energy received by the facility;
 - a source of gas flow signals representative of gas flow through a gas conduit to the facility;
 - a source of temperature signals representative of a temperature corresponding to the gas conduit;
 - a processing circuit disposed within the meter housing, the processing circuit operably connected to the source of energy signals to receive energy signals therefrom, the processing circuit operably connected to the source of gas flow signals to received gas flow signals therefrom, the processing circuit operably connected to the source of temperature signals to receive temperature signals therefrom, the processing circuit operable ~~to; to~~
generate electrical energy consumption metering information from the energy signals; and
generate gas consumption information based on the received gas flow signals and the received temperature signals.

2. (Original) The metering arrangement of claim 1, wherein the processing circuit includes at least two processing devices.
3. (Original) The metering arrangement of claim 1, wherein the processing circuit further includes at least one AID converter.
4. (Original) The metering arrangement of claim 1, wherein source of gas flow signals further comprises a source of pulsed gas flow signals, each pulsed gas flow signal having a frequency that corresponds to a detected gas flow quantity.
5. (Original) The metering arrangement of claim 1, wherein source of temperature signals further comprises a source of pulsed temperature signals, each pulsed temperature signal having a pulse frequency that corresponds to a detected temperature.
6. (Original) The metering arrangement of claim 1 wherein the source of gas flow signals includes a gas meter having a gas measurement device and a display, the display providing visible information representative of the gas flow.
7. (Original) The metering arrangement of claim 1 further comprising a display supported on the meter housing and operably connected to the processing circuit, the display operable to provide visible information representative of energy consumption.

8. (Original) The metering arrangement of claim 1 wherein the processing circuit is further operable to

obtain an uncorrected gas volume value from the received gas flow signals;
obtain an average temperature value from the received temperature signals; and
generate corrected gas flow information at least in part by multiplying the
uncorrected gas volume value by a second value that is equal to the ratio of the reference
temperature to the average temperature value.

9. (Original) The metering arrangement of claim 8 wherein the uncorrected gas volume value is a number of pulses in the received gas flow signals over a first time period and the average temperature value is a second number of pulses in the received temperature signals over the first time period.

10. (Original) The metering arrangement of claim 1, wherein the processing circuit is further operably connected to a source of pressure signals to receive pressure signals therefrom, the processing circuit further operable to generate corrected gas flow information based on the received gas flow signals, the received temperature signals and the received pressure signals.

11. (Currently amended) A metering arrangement, comprising:

a meter housing configured to be securely supported proximal to a facility receiving utility commodities;

a source of energy signals representative of electrical energy received by the facility;

a first pulse signal input supported by the meter housing and operable to receive gas flow signals representative of gas flow through a gas conduit to the facility;

a second pulse signal input supported by the meter housing and operable to receive temperature signals representative of a temperature corresponding to the gas conduit;

a processing circuit disposed within the meter housing, the processing circuit operably connected to the source of energy signals to receive energy signals therefrom, the processing circuit further operably connected to the first pulse signal input and the second pulse signal input, the processing circuit operable ~~to; to~~ generate electrical energy consumption metering information from the energy signals; and

generate corrected gas flow information based on signals received at the first pulse signal input and the second pulse signal input.

12. (Original) The metering arrangement of claim 11, wherein the processing circuit includes at least two processing devices.
13. (Original) The metering arrangement of claim 11 further comprising a display supported on the meter housing and operably connected to the processing circuit, the display operable to provide visible information representative of energy consumption.

14. (Original) The metering arrangement of claim 11, wherein the source of energy signals includes at least one current transformer.

15. (Original) The metering arrangement of claim 14, wherein the at least one current transformer is affixed to the housing.

16. (Original) The metering arrangement of claim 11, wherein the source of energy signals is supported by the housing.

17. (Original) A method, comprising:

providing to a processing circuit energy signals representative of electrical energy consumption, the processing circuit disposed within a meter housing;

providing to the processing circuit gas flow signals representative of gas flow through a gas conduit;

providing temperature signals to the processing circuit representative of a temperature corresponding to the gas conduit;

using the processing circuit generate electrical energy consumption metering information from the energy signals; and

using the processing circuit to generate gas consumption information based on the received gas flow signals and the received temperature signals.

18. (Original) The method of claim 17 further comprising:
- employing a first routine in the processing circuit to accumulate gas consumption pulses;
- employing a second routine in the processing circuit to accumulate temperature pulses;
- employing a third routine in the processing circuit to generate gas consumption information based on the accumulated gas consumption pulses and the accumulated temperature pulses.
19. (Original) The method of claim 17 further comprising:
- providing pressure signals to the processing circuit representative of atmospheric pressure of gas within the gas conduit; and
- using the processing circuit to generate gas consumption information based on the received gas flow signals, the received temperature signals and the received pressure signals.
20. (Original) The method of claim 17 further comprising communicating the gas consumption information external to the meter housing.